(range 18-71) and 59% were males. Intensity of conditioning regimens was: conventional, 243 (80%); reduced/minimal, 59 (20%). Prior to BMT, 40 patients had received Imatinib and 21 (7%) had a significant neurological history: CNS involvement by primary disease, 12; history of CVA/TIA, 4; seizures, 5.

The cumulative incidence of neurological complications at 30, 100, 180 and 365 days was 9%, 18%, 20% and 23%, respectively. Manifestations of neurological complications within 100 days (n=53) of transplant were seizures (n=19), visual disturbances (n=9), altered level of consciousness (n=7), confusion/delirium (n=11) and others (n=7). For the patients surviving 100 days (n=255), 17 developed neurological complications manifesting as seizures (n=3), altered level of consciousness (n=1), visual disturbance (n=4), confusion/delirium (n=7) and others (n=2). Of the 22 patients with seizures, the etiology was posterior reversible encephalopathy syndrome (PRES) in 15 (68%). Of the 21 patients with significant neurological history prior to BMT, 4 developed seizures.

Multivariate regression analysis identified female gender and high-dose total-body irradiation (TBI) containing conditioning regimens as the independent risk factors for neurological complications in first 100 days of transplant (Table 1).

Survival at 1-year was significantly inferior in patients who developed neurological complications in first 100 days of transplant compared to those who did not (27% versus 71%, p<0.0001).

We conclude that neurological complications in first 100 days have a significantly adverse impact on survival in the recipients of AlloHCT. High-dose TBI containing conditioning regimens should be avoided in the patients considered at a higher risk for neurological complications.

Table 1. *Multivariate Regression analysis for risk factors for neurological complications in first 100 days of transplant*

Variable	Comparison	Odds ratio	95% Confidence Intervals (C.I.)	p-value
Gender	Female Vs. Male	2.03	1.08-3.84	0.03
Imatinib prior to BMT	No Vs. Yes	0.48	0.22-1.06	0.07
Intensity of Conditioning	Conventional versus Reduced / Minimal	2.23	0.69-7.19	0.18
Dose of TBI in the conditioning regimen	None Vs. High dose (1200 cGy) / Low/ Mod (200-500 cGy) Vs. High dose (1200 cGy)	0.29/0.62	0.12-0.73 / 0.27-1.41	0.03

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MIXED CHIMERISM (MC) AFTER STANDARD ALLO STEM CELL TRANSPLANTATION (SCT) IN CHILDREN: 1) CAN MC BE USED AS A PREDICTOR OF RELAPSE? 2) WHEN DOES MC BECOME STABLE AFTER TRANSPLANT OF NON-MALIGNANT PATIENTS?

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The purpose of this investigation was to evaluate: 1) Whether the presence of MC early in the post SCT course is a risk factor for later relapse. 2) To examine in non-malignant diseases when MC becomes stable after SCT.

Patients and methods: MC was determined by PCR based analyzes of microsatellite polymorphisms. The level of sensitivity of this method is approximately 1% residual recipient cells. All (N: 74) children transplanted for leukaemia or MDS between 97.10.20 and 05.09.01 were examined consecutively for the presence of MC. An initial analysis of the MC courses revealed three main patterns: 1) Early MC (<d90), 2) Late MC (>d90) and 3) MC as an integrated part of an ongoing histiological verified relapse. We have evaluated associations between early as well as late MC and the occurence of later relapse.

Furthermore, MC was examined in patients transplanted for non-malignant disease (N: 25). Only patients who had at least one examination showing MC and who had measurements of MC at least one year post SCT were included in this evaluation. MC were examined on 11 occations (mean, range: 3-29). The last examination was 3.1 years (mean, range: 1.2-5.8) after transplant.

Results. Among leukaemia patients (N: 24) who later relapsed 34% showed signs of early MC whereas, 35% of leukaemia patients (N: 50) who did not relapse showed signs of early chimerism. Late MC was observed in 25% of patients who relapsed and among 22% of patients who did not relapse. Similarly, when ALL patients were examined separately (N: 47) no significant difference in MC (early or late) was recorded between patients who later relapsed and those who didn't.

Patients with MC transplanted for non-malignant diseases in average showed constant MC levels 0.49 years (mean, range: 0.05-1.83) after transplant.

Conclusion. 1) In paediatric patients with leukaemia the presence of MC is not associated with recurrence if the MC is not an integrated part of a histiological relapse. 2) In patients with early MC, one half of these achieve a stable level of chimerism within the first 0.5 year and maintaine this level thereafter. Significant changes are rare after 1.8 years post transplant.

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IMPACT OF 100-DAY SURVIVAL ON LONG-TERM OUTCOME OF MYELOABLATIVE TRANSPLANT AT AN EARLY STAGE OF LEUKEMIA

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Objective; There is a growing demand for quality improvement in hemtopoietic stem cell transplantation (HSCT) as in other fields of patient management. An indicator(s) is necessary for the quality assurance, which finally leads a continuous quality improvement process. We analyzed the impact of survival rate at 100 days post-transplant (100-day S)on the long-term outcome in leukemia patients who received a myeloablative HSCT at an early stage of leukemia.

Methods; Two databases were used; one from our hospital (1), and one from Japan Marrow Donor Program Registry (JMDPR) (2). (1) Total 229 patients who received a transplant at 1st CP of CML or 1st or 2nd CR of acute leukemia at our hospital were divided into two groups; 65 patients who received a related transplant before 1988 or unrelated transplant before 1997 (group E) and the remaining 164 patients (group L). (2) Total 1,203 patients received an unrelated transplant via JMDPR at 1st CP or 1st CR from 1993 to 2001. Number of hospital which performed at least 10 transplants was 40. Among these 40 hospitals, 6 hospitals showed a significantly lower 100-day S than the average of all of 1,203 patients. Total 125 patients received a transplant at these 6 hospitals (group B) and total 697 patients at the remaining 34 hospitals (group G).

Results; (1) The 100-day S was 83.1% in group E and 95.7% in group L (p=0.001). Overall survival (OS) at 5 years was 62.5% in group E and 74.6% in group L (p=0.049). OS at 5 years of survivors over 100 days post-transplant was 74.1% in group E and 78.4% in group L (p=0.54). (2) The 100-day S was 66.4% in group B and 89.6% in group G (p<0.001). OS at 10 years was 47.0% in group B and 59.7% in group G (p<0.001). OS at 10 years of survivors over 100 days post-transplant was 70.8% in group B and 66.3% in group G (p=0.68).

Conclusions; In these two patient populations, patient groups with a lower 100-day S showed a worse long-term outcome. Survivors over 100 days post-transplant in both patient groups showed a similar long-term outcome. Thus the 100-day S might be an indicator for the quality assurance of myeloablative HSCT at an early stage of leukemia.